

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A computer system comprising at least two processes P1, P2, . . . Pi, . . . PN connected by a network, wherein[[,]] each process ~~being~~ is executed by a piece of hardware equipped with an operating system, wherein a process comprises: at least:

[[-]] a library software layer ~~by which this~~ used by the operating system can to access ~~the programs~~ a program for the activation of ~~the~~ a communications ~~protocols~~ protocol associated with ~~the inputs/outputs~~ an input/output of the hardware;

[[-]] an intermediate software layer comprising an inter-process communications process associated with a communications channel; and

[[-]] a multiplexer encapsulated in the library and configured to multiplex ~~multiplexing~~ the communications channel of a process Pi with the communications channels of the other processes P1, P2, . . . PN, the exchanges being made in ~~the~~ a form of data flows, the communications channel between two processes Pi, Pk being activated by the multiplexers of the two processes, upon a request by one of them.

Claim 2 (Currently Amended): [[A]] The system according to claim 1, wherein the library is interposed between an applications software layer and the operating system.

Claim 3 (Currently Amended): [[A]] The system according to ~~one of the above~~ claims 1 or 2, wherein the transmission channel carries out ~~the~~ a one-way transfer of data between two processes.

Claim 4 (Currently Amended): ~~[[A]] The system according to one of the above~~
~~claims 1 or 2, wherein the an~~ inter-process communications service is activated by the
multiplexer ~~by the interception of~~ intercepting calls pertaining to ~~inputs/outputs~~
inputs/outputs of the hardware according to a protocol made up of requests and responses,
this protocol being defined at ~~the a~~ level of the multiplexer in a table indicating ~~the a~~ type of
data, ~~the wherein exchanges being are~~ made in ~~the a~~ form of data flows.

Claim 5 (Currently Amended): ~~[[A]] The system according to claim 4 wherein, in~~
addition to the inter-process communications service, other services activated by the
multiplexer are associated with the process, the services being activated according to a
protocol consisting of requests and responses.

Claim 6 (Currently Amended): ~~[[A]] The system according to any of the claims 4 or~~
~~5 claim 4, wherein the table indicates the type of data, namely whether it is a request or a~~
response, ~~the an~~ associated service, ~~as well as the and~~ sizing attributes for the data processing.

Claim 7 (Currently Amended): ~~[[A]] The system according to any of the claims 5 or~~
~~6 claim 6, wherein, when a service being the is a~~ master-slave redundancy, ~~the a~~ first instance
of the slave being a master and the following instances being slaves, ~~when a~~ process P_i sends
out a request, this request is processed by all ~~the other~~ processes P_1, P_2, \dots, P_N , the
multiplexer of these processes filtering the responses of the slaves, and in the event of ~~the a~~
loss of a master, a slave ~~being is~~ promoted to master in its turn.

Claim 8 (Currently Amended): ~~[[A]] The system according to any of the claims 5 to 7~~
claim 7, wherein, in a selective concurrent mode of access to a process, to enable ~~the a~~

distribution of ~~the~~ a processing load among several instances of the process, the multiplexer of ~~this~~ the process ~~makes~~ is configured to make a selection, at each request, of the instance that carries out the processing.

Claim 9 (Currently Amended): ~~[[A]] The system according to any of the claims 5 to claim 8,~~ wherein, in a mode of ~~non-selective~~ non-selective concurrent access to a process, at least two instances of a process make ~~the~~ a same ~~requests~~ request, their responses being returned to ~~the~~ a client process which decides on ~~the~~ a validity of ~~the~~ a responses response.

Claim 10 (Currently Amended): ~~[[A]] The system according to any of the claims 5 to claim 9,~~ wherein ~~a~~ the multiplexer collects supervision data at ~~the~~ two boundaries that it faces, ~~the~~ an interface with the process P1, P2, . . . PN and ~~the~~ an interface with the transport medium for all these data, the process recording ~~the~~ a number of measurements, ~~the~~ a minimum, maximum and mean values, for each of these values, thresholds being configured, ~~the~~ a crossing of these thresholds being used to activate an alarm or to carry out another action.

Claim 11 (Currently Amended): ~~[[A]] The system according to claim 10,~~ wherein, for the interface with the process, the multiplexer collects the data pertaining to ~~the~~ a size of the requests or responses, ~~the~~ a frequency and ~~the~~ a processing time taken by the process, and for the interface with the medium, ~~it~~ the multiplexer collects the data pertaining to ~~the~~ a latency time and to ~~the~~ a quality of transmission.